BEFORE THE

Federal Communications Commission

WASHINGTON, D.C.

In the Matter of	)	
Wireless E911 Location Accuracy Requirements	)	PS Docket No. 07-114

REPLY COMMENTS OF TRUEPOSITION, INC.

TruePosition, Inc., hereby replies to the comments filed in response to the Public Notice ("*Notice*") released September 22, 2008 in the above-captioned proceeding.[1]

TruePosition is a leading provider of wireless location solutions and technology. Our Uplink Time Difference of Arrival ("U-TDOA") system is the principal network-based location technology deployed in the United States. TruePosition has been a regular and active participant in the Commission's E911 proceedings. From these perspectives, we have noted with interest the efforts by the Association of Public-Safety Communications Officials-International ("APCO") and the National Emergency Number Association ("NENA"), in conjunction with AT&T Mobility ("AT&T"), and Verizon Wireless ("Verizon"). TruePosition agrees with the proposals these parties put forward for county-level compliance measurements to the extent that they recognize that technological improvements and changes in consumer behavior offer an opportunity and a requirement for advances in the quality of E911 service.

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[1] *See Comment Sought on Proposals Regarding Service Rules for Wireless Enhanced 911 Phase II Location Accuracy and Reliability*, PS Docket No. 07-114, Public Notice, DA 08-2129 (rel. Sept. 22, 2008) ("*Notice*").

I. THE PROPOSALS FOR IMPROVING E911 LOCATION ACCURACY REPRESENT A RECOGNITION THAT UNIFORM IMPROVEMENT IS DESIRABLE AND FEASIBLE.

The *Notice* seeks comment on the proposals put forward regarding new E911 accuracy requirements.[2] These proposals call for compliance measurements to be made at the county level, rather than the public safety answering point level mandated by the Commission last year.[3] Unfortunately, several commenters seem less interested in talking about what can be done to improve location accuracy, and more interested in creating self-imposed obstacles. TruePosition believes that the Commission can and should take concrete steps to improve E911 location accuracy for millions of Americans today, and that it can do this by adopting the county-level standard.

In the August 20 Letter, Verizon, APCO, and NENA set forth a schedule whereby new E911 accuracy requirements for handset-based technologies would be phased in over the course of eight years, with an interim benchmarks at two years.[4] In the August 25 Letter, AT&T, APCO, and NENA set forth a schedule whereby new E911 accuracy requirements for handset-based technologies also would be phased in over the course of eight years, but with interim benchmarks after years one, three, and five.[5] While the phase-in of the new accuracy

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2 The proposals are embodied in the APCO/NENA letter to Chief Derek Poarch of July 14, 2008; the APCO/NENA and Verizon letter to Chairman Martin of August 20, 2008; and the APCO/NENA and AT&T letter to Chairman Martin of August 25, 2008. *See Ex Parte* Letter of Willis Carter, APCO International, and Ronald Boneau, NENA, to Chief Derek Poarch, Public Safety and Homeland Security Bureau, FCC, PS Docket No. 07-114 (filed July 14, 2008) ("July 14 Letter"); *Ex Parte* Letter of Brian Fontes, NENA, Robert Gurss, APCO, and John T. Scott, Verizon Wireless, to Kevin J. Martin, Chairman, FCC, PS Docket No. 07-114 (filed Aug. 20, 2008) ("August 20 Letter"); *Ex Parte* Letter of Brian Fontes, NENA, Robert Gurss, APCO, and Robert W. Quinn, Jr., AT&T, to Kevin J. Martin, Chairman, FCC, PS Docket No. 07-114 (filed Aug. 25, 2008) ("August 25 Letter").

3 July 14 Letter at 1.

4 August 20 Letter at 1.

5 August 25 Letter at 2-3.

arrangements is not particularly aggressive, these proposals attempt to present a defensible balance between the practical concerns associated with deploying technology to meet these new standards and the important policy goal of improving E911 location accuracy for all wireless consumers. However, these new standards must be enforced through standard testing methodologies -- which must include, as discussed below, indoor testing -- if they are to fulfill their promise.

As is apparent, our perspective contrasts with that of some of the commenters.[6] For example, some carriers would have the Commission further delay the establishment of improved accuracy requirements based on the individual circumstances of each carrier.[7] These proposals ignore the fact that *existing* U-TDOA technology is sufficient to meet the proposed county-level accuracy requirements in many urban and suburban areas with minimal additional investment, and even in some rural areas as part of a low-cost hybrid solution. We note the actual "experience and observations in the real world performance of the wireless carriers of

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[6] Interestingly, Verizon's ex parte presentation of September 8, 2008 foresees a long process with uncertain prospects. *See Ex Parte* Letter of Adam Krinksy, Counsel to Verizon Wireless, to Marlene Dortch, Secretary, FCC, PS Docket No. 07-114 (filed Sept. 9, 2008). We believe this is unduly negative. More is known and more progress has been made toward improved location accuracy than is reflected in Verizon's presentation. In fact, in September 2000 Verizon Laboratories conducted a test of TruePosition's technology "in the dense urban environment of Manhattan" and concluded that "analysis of the test results revealed that the TruePosition system meets the FCC accuracy requirements in" that environment. In that test, a significant percentage of test calls were placed from inside high-rise buildings. *See* Comments of TruePosition, Inc., PS Docket No. 07-114, at 11-12 (filed Aug. 20, 2007) ("TruePosition Aug 20 Comments"). The laws of physics have not changed in the intervening eight years. TruePosition could deploy a U-TDOA product designed to work with CDMA interfaces shortly if there is a requirement to improve the indoor accuracy estimates provided by carriers that have adopted a handset solution. We have every expectation that it would perform even better than the product tested in 2000 in light of a new generation of U-TDOA technology and the increased density of carrier cell sites.

[7] *See, e.g.*, RTG Comments at 2 (arguing that the proposals under consideration may work for Verizon and AT&T, but other carriers face different circumstances that affect their ability to comply with the requirements). Unless otherwise indicated, all references to comments are to those filed in PS Docket No. 07-114 on or about October 6, 2008.

New York City" that the New York City Police Department ("NYCPD") describes in its filing.[8] The NYCPD opposes any relaxation of existing location accuracy standards or implementation deadlines, noting that it is "not convinced that the existing standards are impossible to meet or are too onerous."[9]

II. INDOOR ACCURACY AND THE DEVELOPMENT OF HYBRID TECHNOLOGIES SHOULD BE THE COMMISSION'S TOP PRIORITIES FOR LONG-TERM IMPROVEMENT OF LOCATION ACCURACY.

There are two issues that are of greatest significance to the Commission's goal of improved location accuracy, and, as a result, should be accorded highest priority: indoor accuracy and hybrid technologies. As we said earlier in this proceeding:

> [T]he *Notice* indicated that the Commission's staff would conduct studies into both hybrid technologies and the performance of different technologies in locating calls placed from inside buildings. TruePosition will provide its full participation and cooperation in connection with any technical tests of this nature mounted by the Commission or by industry under the Commission's auspices.[10]

Indoor accuracy has emerged as an increasingly important issue as the literal and the functional substitution of wireline phones by wireless phones has advanced. Hybrid technologies represent the most important opportunity for material improvements in estimating wireless location for the foreseeable future.[11] The Commission's commitment "to examine both issues, and provide reports of our efforts to the public" and its explicit commitment to complete these reports

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8 NYCPD Comments at 2.

9 *Id.* at 3.

10 TruePosition Aug 20 Comments at 4-5 (footnotes omitted).

11 Commissioner Copps identified the centrality of these two issues at the outset of this proceeding. *See Wireless E911 Location Accuracy Requirements, Revision of the FCC's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling, et al*, Notice of Proposed Rulemaking, 22 FCC Rcd 10609 (2007), Statement of Commissioner Michael J. Copps ("Copps Statement").

"without unduly delaying" a final order should be sufficient to address these important, outstanding E911 accuracy policy issues.[12]

A substantial number of E911 calls are placed indoors, and the accuracy requirements should, in the interest of public safety, reflect this reality. TruePosition both has urged the importance of an indoor testing requirement earlier in this proceeding,[13] and also has provided information regarding the indoor performance of our U-TDOA technology.[14] We have tested our technology extensively, and we have described successful testing we have undertaken in a major city that included a high percentage of calls from inside high-rise buildings. These calls were "placed on the ground floor, mid floor, and top floor of numerous buildings, where on each of the floors the test locations were evenly distributed between locations near windows, interior room locations, and locations at the core of the building."[15] In other words, technology exists *today* to locate indoor calls, and it has been deployed extensively by two Tier I carriers.

The other principal priority involves dual-solution, or "hybrid," satellite-network technology that combines the strengths of existing (and widely-deployed) technologies. TruePosition has contributed to the record with respect to hybrid technologies:

> TruePosition believes that a hybrid network-GPS technology consisting of U-TDOA and A-GPS is well within the realm of technical feasibility and that it would produce enhanced location accuracy. Were such a technology implemented, TruePosition believes it would meet the 100/300 meter accuracy

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12 *Id.* ¶ 19 ("We intend to examine both issues, and provide reports on our efforts to the public. However, we recognize the need to proceed quickly and efficiently with respect to these evaluations, and intend to initiate and complete them without unduly delaying the issuance of a final order.")

13 Comments of TruePosition, Inc., PS Docket No. 07-114, at 6-7 (filed July 5, 2007) ("TruePosition July 5 Comments").

14 TruePosition Aug 20 Comments at 6, Table 1.

15 *Id.* at 11-12. This refers to the Verizon test in Manhattan described at n. 6, *supra.*

> standard in virtually all cases and the 50/150 meter accuracy standard in the vast majority of cases.[16]

TruePosition is prepared to demonstrate its approach to a hybrid solution as soon as we are given the opportunity. In the best case, this would occur in the context of a Commission-supervised or monitored testbed of the type contemplated by the various carrier proposals. Similarly, TruePosition is prepared to share our extensive experience in conducting, and to participate in, in-building testing of location technologies.

III. THE E911 TECHNICAL ADVISORY GROUP SHOULD NOT REPLACE OR DELAY THE ADOPTION OF IMPROVED E911 LOCATION ACCURACY RULES.

Parties also provided extensive comment on the proposal to convene industry groups to address related E911 issues. The proposal calls for the establishment of an E911 Technical Advisory Group ("ETAG") and suggests certain topics for the ETAG charter. TruePosition believes that if the Notice's commitments to publish reports on indoor accuracy and hybrid technologies are honored,[17] the requirement for additional fact gathering and testing mechanisms such as the proposed ETAG will be reduced commensurately. Unfortunately, some commenters appear inclined to expand and complicate the ETAG agenda. In all events, the ETAG should not be allowed to delay concrete steps to improve the location accuracy requirements.

So long as several critical features in AT&T's original ETAG proposal are not compromised,[18] it should be able to provide the Commission with supplemental but nevertheless

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[16] TruePosition July 5 Comments at 5. *See also* TruePosition Aug 20 Comments at 3, 10.

[17] *See* Copps Statement at 1.

[18] *See* Comments of AT&T Inc., PS Docket No. 07-114, at i. (filed July 5, 2007).

useful information to guide the future of E911 location service and regulation. To summarize, the critical features include:

- An explicit FCC role in ETAG governance.
- Representative membership that includes technology vendors.
- A 12 month timetable with suitable internal deadlines.[19]
- An explicit task list that includes a priority among tasks.

The best way to accomplish this would be to form the group under the auspices of the Federal Advisory Committee Act.[20]

Unfortunately, several commenters urge changes to the ETAG proposal that would undercut these critical features and significantly hinder the ETAG's ability to provide the Commission with useful information. The Commission should not accept these proposals.

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[19] For example, the formulation of in-building testing protocols should be required within three months of the commissioning of the ETAG because it can be accomplished very readily. Other issues, especially those such as analysis of hybrid technologies that will entail field testing, should be *completed* within twelve months.

[20] 5 U.S.C. app § 1 et seq.

IV. CONCLUSION

We support the county-level accuracy standard, and we note particularly that the technology to meet such a standard exists *today* for all carriers (recognizing that carriers choosing a network solution will require time for handset penetration). Specifically, we believe all carriers can meet this standard with a hybrid solution, the components of which exist *today*. Moreover, in the interest of public safety, the Commission must account for the fact that a substantial number of E911 calls originate indoors. Ultimately, however, the Commission should not countenance any undue delay. In that vein, TruePosition urges the Commission to act promptly to take the steps outlined herein to improve E911 location accuracy standards.

Respectfully Submitted,

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